

MaK Cylinder Liner REParts Marine-CM

Genuine MaK Parts



Introduction

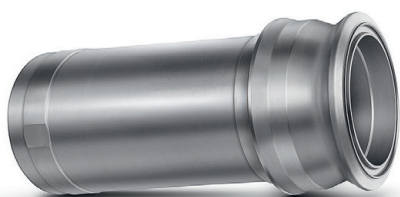
Cylinder liners are designed to give an extensive working life with long periods between overhauls. Wear in a cylinder liner is mainly due to friction, abrasion and corrosion although under severe conditions scoring or scuffing may also occur.

Materials for liners must provide adequate strength and fatigue life, resist abrasion, corrosion and be able to retain a film of lubricating oil on working surfaces. In order to maintain a running surface at which an oil lubrication film can be retained, liners require to be honed.

Over the years engine manufacturers have developed different honing methods and in practice there is a need for detailed and regular inspection of the running surface of all liners in service.

What are the main advantages of the REParts Marine-CM honing method?

- Original honing structure angles
- Cylindrical bore shape
- Full 12 months factory guarantee



Frequently Asked Questions

What is the main purpose of the honing grooves?

The purpose of the honing grooves is to help retain lubricating oil on the liner. The risk of piston and/or piston ring seizure, high oil consumption and increased wear will occur if, through liner wear or damage, the oil groove volume is too low or too high.

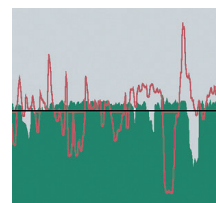
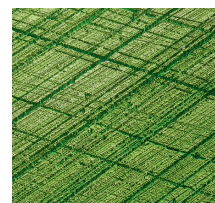
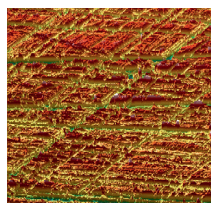
What are the advantages of REParts Marine-CM honed liners compared to other types on the market today?

MaK cylinder liners have a carefully machined surface with a plateau on which the piston rings run with oil grooves that spread and retain oil on the full liner. Surface REParts Marine-CM liners follow the same OEM honing processes and cylinder surface treatment to return a “used” liner to “as new” condition.

Is there any correlation between oil consumption and the different types of honing techniques?

Yes, there is a correlation between honing techniques and lubricating oil consumption. “Fine Honed” liners exhibit lower surface structure amplitudes than “Plateau Honed” cylinder liners, with a relative difference in lubrication oil consumption.

(continued on next page)



“Required REParts Marine CM honing steps”

Frequently Asked Questions (continued)

What is the impact of losses and emission regulations on cylinder liner treatment?

Engine oil and fuel consumption are to a great extent controlled by the shape of the cylinder liner surface. Therefore, since the mechanical power loss in the engine accounts for about 15% of the total energy losses and half is due to friction in the piston-liner system, the condition of the cylinder liner will have a significant impact on emissions and fuel consumption.

What are the possible advantages of having correctly honed liners?

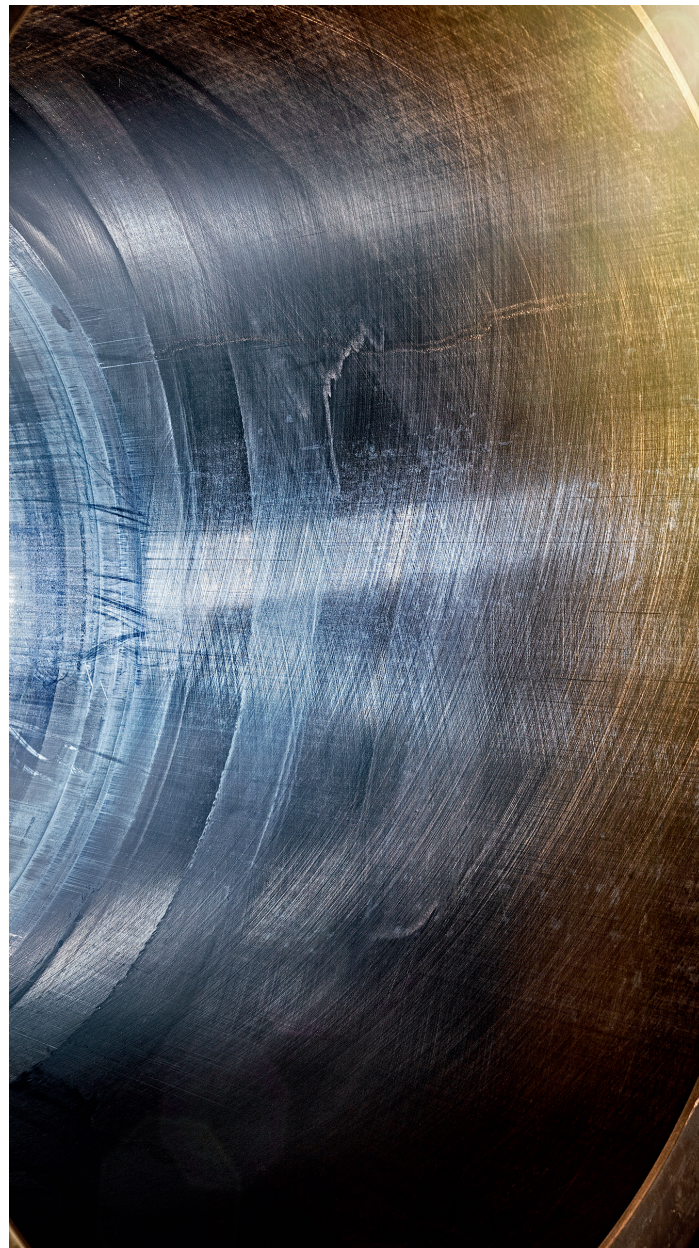
A reduction of unburned oil in the exhaust system may be observed for REParts Marine-CM liners as compared to non OEM original honed liners. The REParts Marine-CM method with its steeper honing angle controls the oil film thickness at higher speeds and therefore reduces oil consumption.

What is the risk of alternative honing procedures?

Alternative honing procedures lead to varying hone angles and an overall increase in surface roughness, potentially increasing liner wear, reducing piston ring life and subsequently increased oil carry over and consumption.

Your Benefits

- Lower operating cost (TCO)
- Full 12 months factory guarantee
- Original factory specifications
- Quality and reliability



* MaK customer



Caterpillar Motoren GmbH & Co.KG
Falckensteiner Str. 2
24159 Kiel/Germany

Phone: +49 431 3995 01
Telefax: +49 431 3995 2193

For more information please visit our website:
cat.com/marine

Subject to change without notice.
Leaflet No. 432 · 08.21 · e · L+S · VM3
LEDM0110-02

© 2021 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

 Caterpillar Motoren is committed to sustainability.
 This document is printed on PEFC certificated paper.

Contact your local dealer:

https://www.cat.com/en_US/by-industry/marine/mak-dealer-locator.html

Visit us on Shipperserv at:

<https://www.shipserv.com/brand/mak>

Check out our MaK LinkedIn page to stay up to date:

<https://www.linkedin.com/showcase/caterpillar-mak/>



MaK